False alerts

False alerts remain a problem for search and rescue organisations. Emergency Positino Indicating Beacons (EPIRBs) need to be easy to use in an emergency, so it is inevitable that they may be activated unintentionally when there's no distress situation. If this happens, switch off the EPIRB immediately and **always** contact HM Coastguard **via marine radio or on +44 (0)344 383 0902**.

EPIRB guard receivers can help to detect when an EPIRB has been activated by monitoring EPIRB signals around the vessel. When an EPIRB signal is detected the guard receiver alarms, and it will indicate if the EPIRB belongs to its own vessel. If it displays 'own ship' or 'other vessel', inform the MCC immediately, especially if it's a false alert.

Installation

EPIRBs may be bought with a float-free bracket so they release automatically from a sinking ship. Such brackets may not be practical for small vessels, therefore EPIRBs should be stowed or installed in an easily accessible position, ready to be released manually.

Deploying

EPIRBs should always be deployed in accordance with the manufacturer's instructions and with a clear view of the sky. Often this is by securely tethering to a survival craft where they can float upright. Obstructions may block the distress alert transmission and any GNSS reception.

Test and maintenance

Follow the manufacturer's instructions on testing and maintenance to ensure the device remains capable of operation and with sufficient battery life.

Registration

Beacons that operate within the 406 MHz band MUST be registered with the MCA and your registration details kept up to date. If your beacon is activated and a distress alert is received, the search and rescue authorities will use the emergency contact information you have provided.

Customers should register their beacon online.

To register your beacon, go to: **www.gov.uk/register-406-beacons**

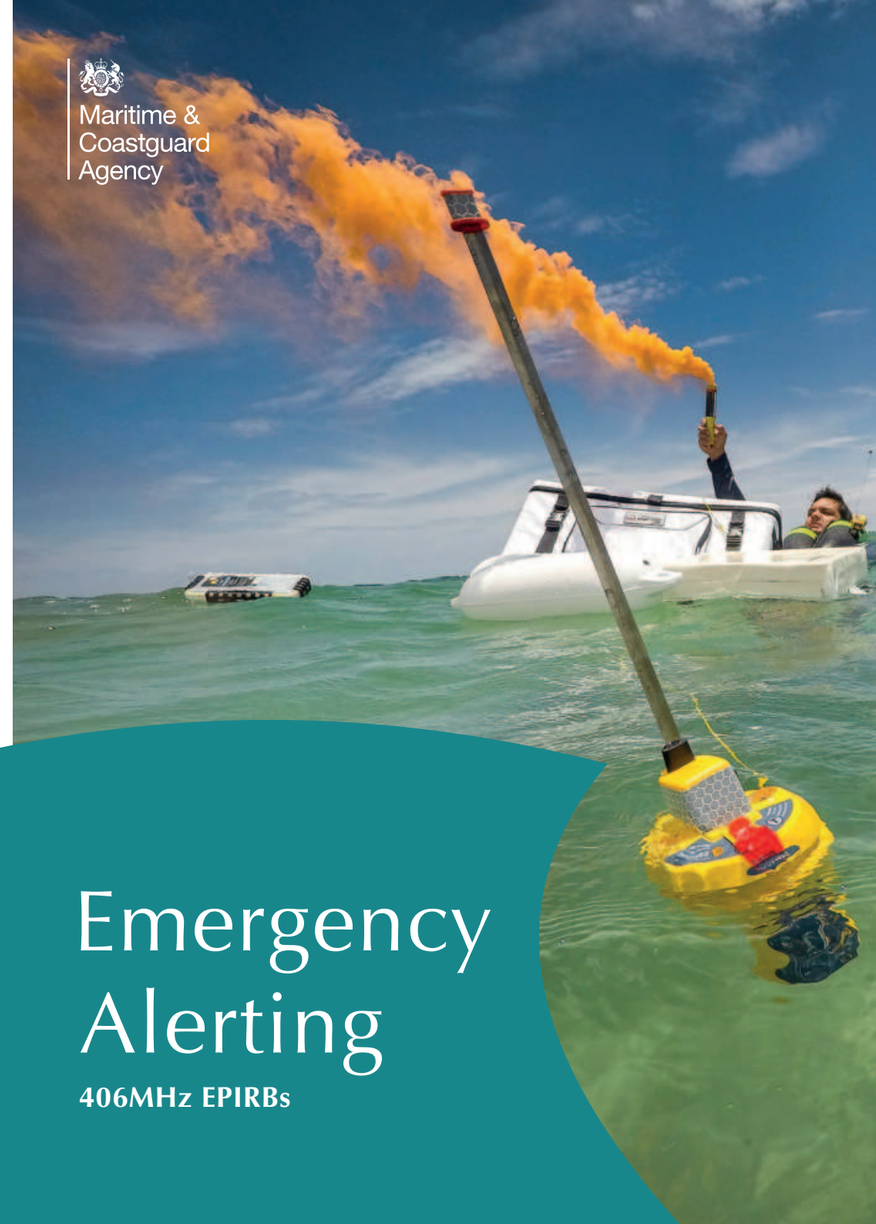
If you're a non-digital customer and need assistance, you can contact the Registry Team for advice and support by calling: **020 381 72006**

Or write to us:
The UK 406 MHz Beacon Registry
Falmouth MRCC
Castle Drive
Pendennis Point
Falmouth
Cornwall
TR11 4WZ

Photos are courtesy of McMurdo, Jotron, ACR electronics and Ocean Signal.
The photos in this leaflet are for illustrative purposes only. Other devices are available.

MCA/NAV001

Maritime & Coastguard Agency



Emergency Alerting

406MHz EPIRBs

Emergency Position Indicating Radio Beacons (EPIRBs)

Pleasure vessels of 13.7m or more, commercial charter yachts, powerboats, workboats and fishing vessels are required to carry EPIRBs.

Emergency Position Indicating Radio Beacons (EPIRBs) transmit distress alerts to shore via satelllites and signals to support on-scene location. They are required to be carried by pleasure vessels of 13.7m or more, commercial charter yachts, powerboats, workboats and fishing vessels. It's recommended that EPIRBs and/or Personal Locator Beacons (PLBs) are carried on vessels operating in high-risk environments. For more information on PLBs, see our separate leaflet about personal emergency radio devices, available on **GOV.UK**.

Identifying the vessel

Each EPIRB transmits a unique Hexadecimal Identification (HEX ID) code that needs to be registered and linked with the vessel and shore-side contacts. You MUST register your EPIRB with the Maritime and Coastguard Agency (MCA) to ensure your vessel can be identified. If unregistered, it could delay the appropriate resources arriving on scene.

Return Link Service

This new service allows a Cospas-Sarsat designated Mission Control Centre (MCC) to indicate, on a suitably equipped EPIRB, that they have received the distress alert. This acknowledgement will be displayed as the illumination of a light or text display on the EPIRB.

The International Cospas-Sarsat Programme

EPIRBs transmit distress alerts on 406 MHz to satellites operated by Cospas-Sarsat, an intergovernmental organisation, that detects and forwards the alerts to the nearest MCC. The MCC operator acknowledges the alert and forwards the beacon details and position to the appropriate Rescue Coordination Centre (RCC) to initiate search and rescue. The International Maritime Organization (IMO) developed the EPIRB capability to send distress alerts automatically when a vessel is suddenly overwhelmed, and to support location of the survival craft. Once activated, the operating life of an approved EPIRB is at least two days.

Position fixing

Cospas-Sarsat can determine the position of an EPIRB using two methods. The accuracy of the position and the delay before it is received by an MCC depends on the method of position fixing and age of the EPIRB:

If a beacon has a built in Global Navigation Satellite System (GNSS) receiver, e.g. GPS, a position is included in the distress alert. The expected position accuracy is 500m within 20 minutes or less, or 30m accuracy for the most modern beacons.

If a beacon does not have a built-in GNSS receiver (or is outside GNSS receiver coverage) the Cospas-Sarsat system may take up to 90 minutes to provide a position within 5km. However, ongoing improvements to the system reduce delay to 20 minutes in most cases, and the most modern beacons enable accuracy to 100m.

On-scene locating

The position fix supplied through the satellite system is 'old' by the time it reaches a rescuer on scene, meaning they will usually have to search to make a visual fix due to a combination of drift, sea state and poor visibility. A visual fix is essential to finally rescue a casualty.

To save time, EPIRBs provide signals for on-scene locating.

Present generation EPIRBs give local signals:

- a white flashing strobe light;
- 121.5 MHz homing signal, which relies on a direction-finding receiver as carried by lifeboats, Coastguard helicopters and other search and rescue resources. These receivers are sometimes also carried by other vessels such as fishing vessels.
- manufacturers also have the option to add Automatic Identification System (AIS) technology as an on-scene locating signal. The signaling is the same as the AIS-SART (search and rescue transmitter) but replaces the 'SART ACTIVE' message with 'EPIRB ACTIVE.' It is called EPIRB-AIS.
- the local signals are detectable to a few nautical miles by a surface asset and much further by a suitably equipped aircraft. The drift of an EPIRB that has floated free helps inform search plans.